Amendments to the Specification:

Please amend the paragraph on page 1, beginning at line 5, as follows:

The invention generally relates to a method of mixing crystalline solids with polymeric materials and, more particularly, to a methodology which utilizes supercritical fluids, such as supercritical carbon dioxide, to combine solid materials with polymeric materials in a homogeneous ~~homogenous~~ blend.

Please amend the paragraph beginning on page 7, at line 24, as follows:

The SCF assisted mixing process of this invention contemplates combining the polymer with the additive (chemical agent in the presence of SCF under mild temperature and pressure conditions. For example, the preferred operating temperature range for the SCF assisted mixing process is from sub-ambient temperature to about 60°C. The invention is not limited to using temperatures below 60°C; however, it is preferred that temperatures be selected within the practice of this invention which do not adversely affect the stability of the additive, the polymer, or the solvent used to solubilize the additive (if any). The preferred operating pressure range for the SCF assisted process is 400 to 2,600 psi ~~psia~~. Low temperatures (i.e., below 200°C) and low pressures (less than 10,000 psi, and in the examples discussed herein, less than 3,000 psi) allow a number of materials to be handled without degradation. The invention is not limited to using pressures below 2,600 psi ~~psia~~ since the process will depend on the phase behavior of the additive (chemical agent), the solvent (if any), and the SCF. In some applications, the technique may be employed at pressures as high as 30,000 psi and a temperature low enough that the additive does not react or does not liquify.

Please amend the paragraph beginning on page 10, at line 25, as follows:

A number of experiments were conducted using the fluoropolymer A and additive A noted above which demonstrated the viability and utility of this invention. In a series of preliminary experiments directed to assessing the various variables used in the process, the fluoropolymer A and additive A were combined at atmospheric pressure and a temperature of 60°C in the absence of carbon dioxide. Mastication with stainless steel balls changes the physical appearance of the fluoropolymer in this instance from that of a clumpy powder to that of an open porous material, but very poor mixing or blending occurred between the fluoropolymer A and the additive A. In the preliminary experiments, the flouropolymer A was exposed to supercritical carbon dioxide in the mixing chamber at 60°C and at 2500 psi ~~psig~~, in the presence or absence of a small amount of acetone. These preliminary experiments also resulted in a significant change in the fluoropolymer A morphology from the untreated material. Specifically, the supercritical carbon dioxide changes the morphology of fluoropolymer A from a clumpy material to an open porous material due to the SCF solvent dissolving in the fluoropolymer A, thus expanding and swelling fluoropolymer A. When the pressure was relieved, the SCF solvent rapidly vents from the fluoropolymer A making the fluoropolymer A an open morphology with increased surface area. However, the presence of acetone in the combination had very little effect on the morphology of fluropolymer A. Finally, in the preliminary experiments, flouropolymer A and additive A were combined in the mixing chamber with a small amount of acetone and were exposed to processing conditions of 60°C and 2000 psi ~~psig~~. However, nitrogen (N_2) replaced supercritical carbon dioxide in this experiment. It was determined that nitrogen does very little to change the fluoropolymer A morphology. This is due to nitrogen only dissolving to a very low extent in fluoropolymer A. Hence, the effect of nitrogen is similar to hydrostatic pressure alone. These preliminary experiments show that if SCF solvent exhibits reasonable solubility in the polymer material, the final polymer morphology is more open and there is an increase in surface area of the polymer. Effective mixing of the fluoropolymer A with the additive A did not occur in any of these cases.